REMARKS

I. STATUS OF THE CLAIMS

Claims 17-35 are currently pending.

II. REJECTION OF CLAIMS 17-35 UNDER 35 USC 102(E) AS BEING ANTICIPATED BY JONES OR, IN THE ALTERNATIVE, UNDER 35 USC 103 AS BEING OBIVOUS OVER WEIK (FIBER OPTICS STANDARD DICTIONARY, 1997)

Claim 17 recites an optical amplifier comprising (a) an amplification medium for amplifying wavelength-division-multiplexed (WDM) light passed through an upstream transmission line using an excitation light; (b) a measurement part for measuring both of optical power of said WDM light inputted to said amplification medium and optical power of said WDM light outputted from said amplification medium; (c) a variable gain equalizer connected to a downstream transmission line and capable of variably gain equalizing of said WDM light amplified by said amplification medium; (d) a database for holding loss-wavelength characteristics data according to a plurality of transmission line types and gain-wavelength characteristics data according to a plurality of amplifying medium types with an input optical power and an output optical power as parameters; (e) an arithmetic part for computing an inverted characteristic of passing-wavelength characteristic of said transmission line and said amplification medium, on the basis of said loss-wavelength characteristic data according to a type of said transmission line held in said database and said gain-wavelength characteristic data according to a type of said amplification medium specified by said parameters, held in said database; and (f) a setting part for setting a passing-wavelength characteristic of said variable gain equalizer to said inverted passing-wavelength characteristic computed by said arithmetic part.

See, for example, FIG. 1 and the disclosure on page 25, lines 9-18; page 26, line 16, through page 28, line 13; and page 29, lines 20-24, of the specification. See especially database 17, arithmetic part 16 and setting part 16a in FIG. 1.

Jones does not disclose or suggest a database, an arithmetic part and a setting part as recited, for example, in claim 17.

In the outstanding Office Action, the Examiner indicates that paragraphs [0040] and [0041] of Jones relate to the recited database. However, it is respectfully submitted that these portions of Jones relate to an optical trace channel (OTC) that follows all the fiber connections

between optical components along each path, so that the network operating may perform path selection based on this information. See, for example, the first sentence in paragraph [0040]. Moreover, paragraph [0041] relates to a Q estimator for estimating performance of an optical path for route selection. See, for example, the first sentence of paragraph [0041]. Therefore, these paragraphs relate to obtaining data for route selection. These paragraphs do not relate to setting a passing-wavelength characteristic of a variable gain equalizer.

More specifically, paragraphs [0040] and [0041] of Jones do not relate to a database for holding loss-wavelength characteristics data according to a plurality of transmission line types and gain-wavelength characteristics data according to a plurality of amplifying medium types with an input optical power and an output optical power as parameters, an arithmetic part for computing an inverted characteristic on the basis of the loss-wavelength characteristic data and the gain-wavelength characteristic data held in the database, and a setting part for setting a passing-wavelength characteristic of a variable gain equalizer to the inverted passing-wavelength characteristic computed by the arithmetic part as recited, for example, in claim 17.

FIG. 5 of Jones discloses an optical section 100 that includes a variable optical attenuator (VOA). Paragraphs [0098] - [0108] of Jones disclose the use of loop filter 53-1 to provide control signals for adjusting the current of a Raman pump RA, the target gain of EDFA stages A1 and A1, and the attenuation of the VOA, or the attenuation of the gain-flattening module DGE, of optical section 100 in FIG. 5. See, for example, paragraph [0108] of Jones. However, as indicated in paragraph [0098] of Jones, the control is based on a comparison of output power and input power of optical section 100 by loop filter 53-1, and on constants calculated using a function based on the number of OADMs and WXCs in the optical path and the position of the loop in a sequence of loops.

No portion of Jones discloses or suggests that the loop filter 53-1 of Jones computes an inverted characteristic based on loss-wavelength characteristics data according to a plurality of transmission line types and gain-wavelength characteristics data according to a plurality of amplifying medium types with an input optical power and an output optical power as parameters, and sets a passing-wavelength characteristic of a variable gain equalizer to the computed inverted passing-wavelength characteristic as recited, for example, in claim 17.

Moreover, the spectral power equalization disclosed in Jones requires a measurement by an optical signal analyzer (OSA), which leads to increased cost. See, for example, paragraphs [0042], [0068] and [0096] of Jones. Various embodiments of the present invention do not

require the OSA measurement of Jones. Therefore, it is respectfully submitted that various embodiments of the present invention have a cost savings advantage compared to Jones.

Weik simply discloses a well-known definition of Q factor.

Therefore, it is respectfully submitted that none of the references, taken individually or in combination, discloses or suggests a database for holding loss-wavelength characteristics data according to a plurality of transmission line types and gain-wavelength characteristics data according to a plurality of amplifying medium types with an input optical power and an output optical power as parameters, an arithmetic part for computing an inverted characteristic on the basis of the loss-wavelength characteristic data and the gain-wavelength characteristic data held in the database, and a setting part for setting a passing-wavelength characteristic of a variable gain equalizer to the inverted passing-wavelength characteristic computed by the arithmetic part as recited, for example, in claim 17.

Although the above comments are specifically directed to claim 17, it is respectfully submitted that the comments would be helpful in understanding various differences of various other claims over the cited references.

In view of the above, it is respectfully submitted that the rejection is overcome.

III. CONCLUSION

In view of the above, it is respectfully submitted that the application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

If there are any additional fees associated with filing of this Amendment, please charge such fees to our Deposit Account No. 19-3935.

Respectfully submitted,

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